CLEAN COPY OF AMENDED CLAIMS

22. A method to screen for drugs which are useful in treating a person with a mutation in *HERG,* wherein said mutation is one which results in a cysteine at amino acid residue 572, an aspartic acid at amino acid residue 588, a valine at amino acid residue 614, an alanine at amino acid residue 630 or a lysine at amino acid residue 29, said method comprising:

a) placing a first set of cells expressing HERG with a mutation, wherein said mutation is a cysteine at amino acid residue 572, an aspartic acid at amino acid residue 588, a valine at amino acid residue 614, an alanine at amino acid residue 630 or a lysine at amino acid residue 29, into a bathing solution suitable for measuring a first induced K^+ current;

b) measuring said first induced K^+ current;

c) placing a second set of cells expressing wild-type HERG into a bathing solution suitable for measuring a second induced K^+ current;

d) measuring said second induced K^+ current;

e) adding a drug to the bathing solution of step (a);

f) measuring a third induced K^+ current of cells in step (e); and

g) determining whether the third induced K^+ current is closer in value to the second induced K^+ current than is the first induced K^+ current, wherein drugs resulting in a third induced K^+ current which is closer in value to the second induced K^+ current than is the first induced K^+ current are useful in treating said persons.

23. The method of claim 22 wherein cells of said first set of cells are transfected with a mutant *HERG* wherein said mutant *HERG* encodes a HERG protein with a cysteine at amino acid residue 572, an aspartic acid at amino acid residue 588, a valine at amino acid residue 614, an alanine at amino acid residue 630 or a leucine at amino acid residue 29.